

Appln No. 09/619,125

Amdt date December 23, 2003

Reply to Office action of October 23, 2003

REMARKS/ARGUMENTS

Claims 1-2, 4-5, 7-12, 14-19, 21-26 and 28-29 are pending. Claims 1, 4, 11, 18, and 25 are amended, and claims 3, 6, 13, 20, and 27 are cancelled.

The relationship of the instant application to the application serial no. 09/550,757 ('757) was deemed not to be included in the specification. The specification is amended to include the relation of the instant application to the '757 application as a Continuation application. The specification is also amended to correct informalities. No new matter is added.

Claims 1-6, 9-13, 16-20 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turner (U.S. Patent 5,414,733), in view of Park et al. (U.S. Patent 6,259,751); and claims 1-8, 14-15, 21-22 and 2829 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turner, in view of Park, and in further view of Gersho et al. (U.S. Patent 4,412,341).

Independent claims 1, 4, 11, 18, and 25, include among other limitations, "the reference tap is located proximate a center position of the feedforward filter," and "a value of the coefficient of the reference tap is greater than a value of each of the coefficients of each of the other feedforward filter taps."

As the Office action correctly asserts, Turner does not disclose the reference tap being located proximate a center position of the feedforward filter. Turner discloses a decision feedback equalizer, which employs a prescribed number of postcursor taps that are a fixed ratio of the cursor tap. The decision feedback equalizer of Turner includes "an additional

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number K of such postcursor taps in the linear feedforward filter section (where K is an integer equal to or greater than 1), such that this filter section has its largest valued, or 'cursor' weighting coefficient associated with an M-Kth symbol stage of the multistage delay line, and K postcursor weighting coefficients associated with the last K symbol stages of the multistage delay line. Moreover, the postcursor weighting coefficient values associated with the last K symbol stages of the feedforward stage delay line are set at fixed fractions of the cursor weighting coefficient associated with the M-Kth received symbol stage of the delay line." (Col. 4, lines 17-30, also, col. 7, lines 10 to 22.).

Moreover, Turner clearly states that "it has been determined that the coefficient values of the K postcursor taps 71 should be set at fixed fractions of the largest valued tap 55, namely, a fixed fraction of the cursor weighting coefficient W.sub.C associated with the M-Kth received symbol stage of the delay line. For example, the postcursor weighting coefficient values associated with the last K stages of the feedforward delay line may be progressively decreasing binary fractions of the cursor tap. As will be explained in detail below, it has been empirically determined that substantially improved performance is obtained for K equal four, with the taps respectively succeeding the cursor taps having weighting values of $1/2$, $1/4$, $1/8$ and $1/16$ of the cursor tap." (Col. 7, lines 54-68). As a result, Turner teaches away from the limitation of "a value of the coefficient of the reference tap is greater than a value of each of the coefficients of each of the other

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feedforward filter taps," as required by the independent claims 1, 4, 11, 18, and 25.

Park, in cited figure and text (FIG. 4 and related text), discloses an adaptive time domain equalizer including four qualifying impulse response filters. The impulse response filters of Park are not the same of the feedforward filter of Turner. Therefore, there is no motivation to combine the feedforward filter of Turner with the reference taps of the impulse response filters of Park, as suggested by the Office action. In Fact, since Park, (in col. 4, lines 41-42) emphasizes that "a right-tap compensates a preceding signal and a left-tap compensates a next signal," it lacks any suggestion that it should be modified with the feedforward filter of Turner, as suggested by the Office action. Indeed, for the reasons stated above, Turner and Park themselves teach away from the suggested combination.

Consequently, the combination of Turner and Park does not render the independent claims 1, 4, 11, 18, and 25 obvious.

In short, the independent claims 1, 4, 11, 18, and 25 define a novel and unobvious invention over the cited references. Dependent claims 2, 5, 7-10, 12 14-17, 19, 21-24, 26 and 28-29 are all dependent from the independent claims 1, 4, 11, 18, and 25, respectively and therefore include all the limitations of their respective independent claims and additional limitations therein. Accordingly, these claims are also allowable over the cited references, as being dependent from allowable independent claims and for the additional limitations they include therein.

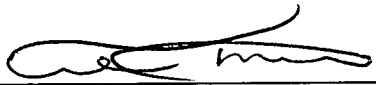
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In view of the foregoing amendments and remarks, it is respectfully submitted that this application is now in condition for allowance, and accordingly, reconsideration and allowance are respectfully requested.

Respectfully submitted,
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